

**U.S. Department of Energy**  
**Washington, D.C.**

**ORDER**

**DOE O 460.2A**

Approved: 12-22-04

Review: 12-22-06

Expires: 12-22-08

**SUBJECT: DEPARTMENTAL MATERIALS TRANSPORTATION  
AND PACKAGING MANAGEMENT**

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1. OBJECTIVES.

- a. To establish requirements and responsibilities for management of Department of Energy (DOE), including National Nuclear Security Administration (NNSA), materials transportation and packaging.
- b. To ensure the safe, secure, efficient packaging and transportation of materials, both hazardous and nonhazardous.

2. CANCELLATION. DOE O 460.2, *Departmental Materials Transportation and Packaging Management*, dated 9-27-95. Cancellation of an Order does not, by itself, modify or otherwise affect any contractual obligation to comply with the Order. Requirements in canceled Orders incorporated by reference in a contract remain in effect until the contract is modified to delete reference requirements of the canceled Orders.

3. APPLICABILITY.

- a. Primary DOE Organizations, including NNSA Organizations. Except for the exclusions in paragraph 3c, this Order and the associated DOE M 460.2-1, *Radioactive Material Transportation Practices Manual*, dated 9-23-02, apply to all Primary DOE Organizations performing or managing the transportation and packaging of offsite shipments (in commerce) of materials to or from a facility on behalf of DOE. (See Attachment 1 for a complete list of Primary DOE Organizations). This Order automatically applies to Primary DOE Organizations created after it is issued.

The Administrator of NNSA shall ensure that NNSA employees and contractors comply with their respective responsibilities under this Order.

- b. Site/Facility Management Contractors. The Contractor Requirements Document (CRD), Attachment 2, sets forth requirements of this Order that will apply to site/facility management contracts that include the CRD.
  - (1) The CRD must be included in site/facility management contracts that require shipping and/or receiving of materials for or on behalf of DOE or NNSA.

- (2) DOE/NNSA field, service center, site, regional office, and facility managers are responsible for notifying the contracting officer which site/facility management contracts are affected. Once notified, the contracting officer is responsible for incorporating the CRD into the affected site/facility management contracts via the laws, regulations, and DOE directive clauses of the contracts.
- (3) As the laws, regulations, and DOE directives clause of site/facility management contracts states, regardless of the performer of the work, site/facility management contractors with the CRD incorporated into their contracts are responsible for compliance with the requirements of the CRD. An affected site/facility management contractor is responsible for flowing down the requirements of this CRD to subcontractors at any tier to ensure the contractor's compliance with the requirements. In doing so, the contractor must not flow down requirements to subcontractors unnecessarily or imprudently. That is, the contractor will ensure that it and its subcontractors comply with the requirements of this CRD; and only incur costs that would be incurred by a prudent person in the conduct of competitive business.

c. Exclusions.

- (1) Items listed in (a) and (b) below are excluded from the requirements of this Order and will be handled in accordance with the applicable practices defined in DOE M 460.2-1, *Radioactive Material Transportation Practices Manual*, dated 9-23-02, which identifies additional requirements for radioactive material and radioactive waste.
  - (a) Classified shipments, complete nuclear explosives, components, special assemblies, and other materials of national security interest that are transported using the Transportation Safeguards System (see DOE O 461.1A, *Packaging and Transfer or Transportation of Materials of National Security Interest*, dated 4-26-04).
  - (b) Facilities and activities of the Naval Nuclear Propulsion Program (see Executive Order 12344).
- (2) Facilities and packaging, transfer or transportation activities and other activities of the Office of Civilian Radioactive Waste Management related to shipments to a repository mandated by and constructed pursuant to the provisions of the Nuclear Waste Policy Act, as amended, to the extent such activities are regulated or controlled by the United States Nuclear Regulatory Commission (NRC) or the United States Department of Transportation (DOT).

4. REQUIREMENTS.

a. Materials Shipment.

- (1) DOE organizations must conduct operations in compliance with all applicable international, Federal, State, local, and Tribal laws, rules, and regulations governing materials transportation that are not inconsistent with Federal regulations. It is DOE policy that, notwithstanding the exemptions available through the national security provisions [Title 49, Code of Federal Regulations (CFR), 173.7(b)] shipments under this provision will comply with the requirements of 49 CFR, parts 100-185, except those that infringe on maintenance of classified information.
- (2) DOE organizations must use the following shipment management procedures.
  - (a) To the maximum extent practicable, an automated management system will be used to perform transportation tasks, and all sites will ensure that shipment data is reported through this automated system.
  - (b) Consistent with the Government's self-insurance policy, DOE organizations must ensure that Government funds will not be expended to insure property against loss, damage, or destruction while in transit, unless the shipment qualifies as a special circumstance (see Federal Acquisition Regulations at 48 CFR 47.102).
  - (c) All commercial bills of lading, air bills, and other commercial documents covering shipments made by or to DOE and/or NNSA contractors on DOE's and/or NNSA's behalf must provide for consignment of the shipments as follows.

TO: U.S. Department of Energy in care of (name of DOE contractor)

OR

TO: U.S. National Nuclear Security Administration in care of (name of NNSA contractor)

AND

FROM: ( name of DOE contractor ) on behalf of the U.S.  
Department of Energy

OR

FROM: ( name of NNSA contractor ) on behalf of the U.S.  
National Nuclear Security Administration.

- (3) DOE organizations that require military air transportation must send requests to the Air Force (Department of Defense 4500.9-R, *Defense Transportation Regulation*) and provide copies of the requests to the appropriate program Secretarial Office. Requests will include the DOE organization's certification that military air transport is in the national interest and that commercial air transportation is not readily obtainable or capable of meeting program requirements.
- (4) DOE derives explosives hazard classification authority from 49 CFR 173.56(b)(3). Testing of explosives and articles is prescribed in 49 CFR 173.56. DOE also derives interim hazard classification authority from TB 700-2, for developmental explosives and articles to allow shipment pending final testing for permanent classification. Before transporting new explosive substances and articles made by DOE or under the direction or supervision of DOE—
  - (a) DOE organization must test the materials and obtain explosive hazard classification from the Office of Technical Services, NNSA Service Center and
  - (b) DOE must provide two copies of the approval and supporting documentation for registration with the Department of Transportation.

b. Receipt of Materials Shipments.

- (1) DOE organizations must ensure that all shipments are inspected upon receipt for damage or loss and evidence of leakage.
  - (a) Radioactive material shipments shall be inspected for external contamination and radiation levels (10 CFR 835.405, *Occupational Radiation Protection*).
  - (b) Claims must be filed according to the provisions of the *DOE Accounting Handbook* and facility procedures.
- (2) If a delivery vehicle is contaminated as a result of radioactive cargo or surveys indicate potential exposure above acceptable limits, the vehicle

must be detained and the carrier immediately notified so that other potentially contaminated vehicles can be surveyed. Release limits are specified in 49 CFR 177.843, *Contamination of Vehicles*. Specific response activities will follow facility procedures.

c. Consignee Notifications. For each shipment of fissile material or more than Type A quantity of radioactive material.

- (1) The shipper must notify the consignee of the date of the shipment, the expected date of arrival, and any special loading or unloading instructions.
- (2) The consignee must notify the shipper by the end of the first working day after the estimated arrival date if the shipments have not been received.

d. Transportation Services and Rates.

- (1) All carriers who transport highway route controlled quantities of radioactive material in less-than-truckload or truckload (TL) quantities, any TL quantities of radioactive material, and any quantity of hazardous waste must be evaluated for safety, financial status, security, and compliance with applicable regulations. A copy of the evaluation document will be provided to the Office of Environmental Management within 45 days of completion of the carrier evaluation.
- (2) Only carrier rates on file with DOE organizations, other Federal agencies, or a State commission will be used for shipments by common carriers on behalf of DOE.
- (3) When other than a low-cost carrier or mode of transportation is used for any shipment other than overnight express, DOE organizations must ensure that a written justification or management approval statement is retained in the appropriate transportation record indicating the carrier or mode selected was necessary to meet the requirements of the shipment and to obtain safe, expeditious, and economical delivery.

e. Rail Transport.

- (1) DOE rates and tenders will be negotiated and accepted only from railroads that demonstrate compliance with applicable Federal Railroad Administration requirements, DOT hazardous materials regulations, and Association of American Railroads interchange standards.
- (2) Special train services must be approved by the DOE field office or program traffic manager.

f. Compliance Evaluations.

- (1) DOE organizations evaluate contractor/subcontractor transportation and packaging operations at each facility at least every 3 years.
- (2) Evaluations may be conducted using existing site/facility processes (e.g., facility representatives program reviews, operational readiness reviews, contractor self-assessments, and other safety reviews) or an established transportation and compliance review program. Copies of evaluation reports must be provided to the lead program Secretarial Offices within 45 days of the evaluation.

g. Emergency Notification/Response. DOE organizations must ensure that shipping papers include a 24-hour emergency response phone number [49 CFR 172.604] and must perform periodic tests/drills to ensure the 24-hour emergency response system is operable.5. RESPONSIBILITIES.a. Assistant Secretary for Environmental Management.

- (1) Administers DOE transportation and packaging responsibilities.
- (2) Prepares policy and guidance for DOE materials transportation and packaging management and assists DOE organizations and contractors on related matters.
- (3) Represents DOE in matters dealing with in-commerce transportation and packaging operations with other Federal entities.
- (4) Coordinates DOE review of, participation in, and comments on international, Federal, State, local, and tribal transportation and packaging regulations.
- (5) Develops and submits petitions for rulemaking concerning transportation and packaging related matters.
- (6) Establishes and manages a transportation logistics program that includes carrier evaluations, negotiation of DOE freight rates and rules, and negotiation of national freight rate tenders and contracts and interfaces with other Federal and commercial entities on such matters as bill of lading audits, requests for military transportation services or equipment, and availability of commercial transport equipment to meet programmatic requirements.

- (7) Develops, integrates, implements, and maintains computerized systems to support transportation and packaging management and administers requests for use of or access to the automated systems and tools.
  - (8) Reviews occurrence reports and information pertaining to packaging and transportation incidents to analyze safety concerns, trends, and potential impact on packaging and transportation operations and to develop lessons learned.
- b. Administrator, National Nuclear Security Administration. Reviews supporting documentation for explosives classification and files the applications with DOT for registration. In coordination with the Office of Environmental Management—
  - (1) Administers NNSA transportation and packaging management responsibilities for offsite (in-commerce) materials.
  - (2) Represents NNSA in matters of in-commerce transportation and packaging operations with other Federal entities.
  - (3) Develops and submits petitions for rulemaking actions concerning NNSA in matters related to in-commerce transportation and packaging.
- c. DOE Secretarial Officers, Program Secretarial Officers, and Lead Program Secretarial Officers, and NNSA Deputy Administrators.
  - (1) Ensure that DOE organizations and contractors under their purview fully implement and comply with the requirements of this Order.
  - (2) Coordinate program-related transportation plans; proposed transportation computerized systems; transportation systems studies; packaging development activities; and training requirements, reports, and analyses with the Office of Environmental Management to ensure consistency of policy and avoid duplication of effort.
  - (3) Designate individuals cognizant of program plans and requirements to serve as the points of contact for transportation and packaging interfaces and integration of transportation and packaging activities into program planning.
  - (4) Conduct compliance evaluations of contractor/subcontractor transportation and packaging operations at each facility at least every 3 years.
- d. Assistant Secretary for Environment, Safety and Health. Establishes policy, requirements, and guidance for environmental protection, safety, and health with regard to DOE materials transportation and packaging.

- e. Assistant Secretary for Management, Budget, and Evaluation. Manages Order requirements for Headquarters.
- f. DOE/NNSA Field, Service Center, Site, Regional Office, and Facility Managers.
  - (1) Ensure that field organizations and contractors under their purview involved in performing or managing transportation and packaging fully implement and comply with the requirements of this Order.
  - (2) Obtain waivers from State, Tribal, and local transportation requirements, as needed to meet programmatic requirements, and provide copies of all such requests and waivers to the Office of Environmental Management and the NNSA Deputy Administrator for Defense Programs for field organizations.
  - (3) Secure copies of exemptions and approvals by contractors and provide copies to the Office of Environmental Management or for NNSA organizations to the Deputy Administrator for Defense Programs.
  - (4) Issue Price-Anderson Amendments Act indemnity agreement certificates to carriers, upon their request, or notify the requesting carriers and/or the referring organization that a shipment is not covered by an indemnity agreement. NOTE: When the NRC and the consignor or consignee have entered into a licensee indemnity agreement or when it is not known whether an indemnity agreement exists, refer carriers' certification requests to the Director of the NRC Regional Office listed in Appendix D of 10 CFR 20.
  - (5) Negotiate with carriers or authorize cost-type contractors to negotiate with carriers concerning rates, classification ratings, services, and related transportation matters when only their own field organizations will be affected, and maintain documentation of actions taken.
  - (6) Advise other field organizations; the Office of Environmental Management; the Deputy Administrator for Defense Programs; cognizant PSOs, SOs, and LPSOs; and the NNSA Deputy Administrators of significant freight rate changes and new or changing State, Tribal, or local laws, rules, or regulations (i.e., fees, bans, or petitions).
  - (7) Issue bills of lading when required and authorize contractor employees to issue bills of lading within prescribed limitations.
  - (8) Conduct contractor/subcontractor evaluations of compliance with transportation and packaging requirements at least every 3 years.



- (9) Request a contracting officer to incorporate the requirements of the CRD (Attachment 2) into new or existing contracts and delete the requirements of the canceled Order in existing contracts.
  - (10) Ensure that all carriers who transport highway route controlled quantities of radioactive material in less-than-truckload (LTL) or truckload (TL) quantities, any TL quantities of radioactive material, and hazardous waste in any quantity are evaluated for safety, financial status, security, and compliance with applicable regulations.
  - (11) Conduct site-wide transportation planning and develop reports that identify transportation needs.
- g. Associate Director, Office of Technical Services, NNSA Service Center.
  - (1) Review and approve requests for classification of new explosives.
  - (2) Make preliminary classification determinations of requests for tentative classification of new explosives.
  - (3) Transmit two copies of classification approval documents and supporting data for registration with the Department of transportation.
- h. Contracting Officers. Once notified incorporate the CRD into affected site/facility management contracts via the laws, regulations, and DOE directives clause.

6. REFERENCES.

- a. 10 CFR 20, Standards for Protection Against Radiation, Appendix D, United States Nuclear Regulatory Commission Regional Offices.
- b. 10 CFR 835.405, Receipt of Packages Containing Radioactive Material.
- c. 41 CFR 109-40, Department of Energy Property Management Regulations—Transportation and Traffic Management.
- d. 48 CFR 47.102, Federal Acquisition Regulation, Transportation, Transportation Insurance.
- e. 49 CFR 100–185; Subtitle B, Other Regulations Relating to Transportation; Chapter I, Research and Special Programs Administration, Department of Transportation.
- f. 49 CFR 177.843, Carriage by Public Highway, Contamination of Vehicles.
- g. *DOE Accounting Handbook*, dated 9-8-98, available online at [www.cfo.doe.gov/policy/actindex/index.html-ssi](http://www.cfo.doe.gov/policy/actindex/index.html-ssi).

- h. DOE O 461.1A, *Packaging and Transfer or Transportation of Materials of National Security Interest*, dated 4-26-04.
  - i. DOE O 470.1, *Safeguards and Security Program*, dated 9-28-95.
  - j. DOE O 471.2A, *Information Security Program*, dated 3-27-97.
  - k. DOE O 473.1, *Physical Protection Program*, dated 12-23-02.
  - l. DOE M 460.2-1, *Radioactive Material Transportation Practices Manual*, dated 9-23-02.
  - m. DOE M 471.2-1C, *Classified Matter Protection and Control Manual*, Chg 1, dated 7-14-04.
  - n. DOE M 473.1-1, *Physical Protection Program Manual*, dated 12-23-02.
  - o. DOE M 474.1-1B, *Manual for Control and Accountability of Nuclear Materials*, dated 6-13-03.
  - p. DOE G 460.2-1, *Implementation Guide for Use with DOE O 460.2, Departmental Materials Transportation and Packaging Management*, dated 11-15-96.
  - q. Executive Order 12344, *Naval Nuclear Propulsion Program*, dated 2-1-82.
7. CONTACT. Questions concerning this Order should be referred to the Office of Transportation, 301-903-7284. An optional Guide, DOE G 460.2-1, *Implementation Guide for Use with DOE O 460.2, Departmental Materials Transportation and Packaging Management*, dated 11-15-96, supplements this Order.

BY ORDER OF THE SECRETARY OF ENERGY:



KYLE E. McSLARROW  
Deputy Secretary

**PRIMARY DOE ORGANIZATIONS TO WHICH  
DOE O 460.2A IS APPLICABLE**

National Nuclear Security Administration  
Office of Civilian Radioactive Waste Management  
Office of Environmental Management  
Office of Fossil Energy  
Office of Nuclear Energy, Science and Technology  
Office of Legacy Management  
Office of Science  
Office of Security  
Office of Security and Safety Performance Assurance  
Southeastern Power Administration  
Southwestern Power Administration  
Western Area Power Administration

**PRIMARY DOE ORGANIZATIONS TO WHICH  
DOE O 460.2A IS NOT APPLICABLE**

Bonneville Power Administration  
Departmental Representative to the Defense Nuclear Facilities Safety Board  
Energy Information Administration  
Office of Congressional and Intergovernmental Affairs  
Office of Counterintelligence  
Office of Economic Impact and Diversity  
Office of Electric Transmission and Distribution  
Office of Energy Assurance  
Office of Energy Efficiency and Renewable Energy  
Office of Environment, Safety and Health  
Office of General Counsel  
Office of Hearings and Appeals  
Office of Independent Oversight and Performance Assurance  
Office of Intelligence  
Office of Management, Budget and Evaluation/Chief Financial Officer  
Office of Policy and International Affairs  
Office of Public Affairs  
Office of the Chief Information Officer  
Office of the Inspector General  
Office of the Secretary  
Secretary of Energy Advisory Board

## CONTRACTOR REQUIREMENTS DOCUMENT

### **DOE O 460.2A, *Departmental Materials Transportation and Packaging Management***

Regardless of the performer of the work, the contractor is responsible for compliance with the requirements of this Contractor Requirements Document (CRD). An affected site/facility management contractor is responsible for flowing down the requirements of this CRD to subcontractors at any tier to ensure the contractor's compliance with the requirements. In doing so, the contractor must not flow down requirements to subcontractors unnecessarily or imprudently. That is, the contractor will ensure that it and its subcontractors comply with the requirements of this CRD; and only incur costs that would be incurred by a prudent person in the conduct of competitive business.

The contractors/ subcontractors performing transportation and packaging work for the Department of Energy (DOE), including the National Nuclear Security Administration (NNSA), must comply with the following requirements:

1. GENERAL. The contractor/subcontractor must conduct operations in compliance with all applicable international, Federal, State, local, and Tribal requirements governing materials transportation, unless exemptions or alternatives are approved. Notwithstanding the exemption available through the National Security Provision [Title 49, Code of Federal Regulations (CFR), section 173.7(b)], all shipments will comply with the requirements of 49 CFR 100–185, except for requirements that infringe upon maintenance of classified information.
2. SHIPMENT PROCEDURES.
  - a. The contractor must use an automated transportation management system to perform transportation tasks and will ensure that shipment data is reported through that system.
  - b. Consistent with the Government's self-insurance policy, the contractor must not expend Government funds to insure property against loss, damage, or destruction while in transit, unless the shipment qualifies as a special circumstance as defined in 48 CFR 47.102.
  - c. All commercial bills of lading, air bills, and other commercial documents covering shipments made by or to DOE/NNSA contractors on DOE's/NNSA's behalf must provide for consignment of the shipments as follows.

TO: U.S. Department of Energy in care of ( name of DOE contractor )

OR

TO: U.S. National Nuclear Security Administration in care of  
( name of NNSA contractor )

AND

FROM: ( name of DOE contractor ) on behalf of the U.S. Department of Energy

OR

FROM: ( name of NNSA contractor ) on behalf of the U.S. National Nuclear Security Administration.

- d. When military air transportation is required, the contractor must send requests to the Air Force [Department of Defense regulation 4500.9-R, *Defense Transportation Regulation*] and provide copies of the request to the head of the DOE field organization and to appropriate program Secretarial Office. Requests must include a DOE field organization certification that such transportation is in the national interest and that commercial air transportation is not readily obtainable or capable of meeting program requirements.
  - e. Special train services must be approved by the DOE field office or program traffic manager.
3. CONSIGNEE SHIPMENT NOTIFICATIONS. For each shipment of fissile material or more than a Type A quantity of radioactive material, the contractor must:
- a. Notify the consignee of the date of shipment, expected date of arrival, and special loading or unloading instructions.
  - b. Require the consignee to notify the shipper by the end of the first working day after the estimated arrival date if the shipments have not been received.
4. TRANSPORTATION SERVICES AND RATES.
- a. Upon request from the field organization or other DOE organization, the contractor must evaluate carriers that transport highway route controlled quantities of radioactive material in less-than-truckload or truckload (TL) quantities, any TL quantities of radioactive material, and hazardous waste in any quantity. A copy of the evaluation document must be provided by the contractor to the field organization within 30 days after completion of the carrier evaluation.
  - b. The contractor must ensure that rail tenders and tariffs reflect the lowest available commercial rates for the commodity. Accessorial costs, including demurrage or other late charges, must be clearly detailed in any tender or tariff.
  - c. Only carrier rates on file with field organizations, other Federal agencies, or a State commission will be used for shipments by common carrier on behalf of DOE or NNSA.

- d. When the contractor uses other than a low-cost carrier or mode of transportation, for any shipment other than overnight express, a written justification or management approval statement must be retained.

5. EMERGENCY NOTIFICATION/RESPONSE.

- a. The contractor must include in shipping papers a 24-hour emergency response phone number as required by 49 CFR 172.604. The contractor must perform periodic tests/drills to ensure that the 24-hour emergency response system is operable.
- b. If a contractor uses a third-party provider for its 24-hour emergency number, the contractor must perform periodic tests/drills to ensure that agency's/organization's system is operable. The contractor must ensure that the agency/organization can provide comprehensive information about specific shipments or ensure access to personnel that can provide the information.

6. RECEIPT OF MATERIALS.

- a. The contractor must ensure that shipments are inspected upon receipt for damage or loss and evidence of leakage:
  - (1) Radioactive material shipments must be inspected for external contamination and radiation levels [10 CFR 835.405, Occupational Radiation Protection].
  - (2) Claims will be filed according to the provisions of the *DOE Accounting Handbook* and facility procedures. The handbook is available online at [www.cfo.doe.gov/policy/actindex/index.html-ssi](http://www.cfo.doe.gov/policy/actindex/index.html-ssi).
- b. If a delivery conveyance is contaminated by the radioactive cargo or when surveys indicate potential exposure above acceptable limits, the transport vehicle must be detained and the carrier notified immediately to ensure that other potentially contaminated vehicles can be surveyed. [Release limits are specified in 49 CFR 177.843, Contamination of Vehicles.] Specific response will follow facility procedures.
- c. Perform additional transfer checks and receipt measurements for nuclear materials (which have not been discarded as waste).

7. TRANSPORTATION OF EXPLOSIVE SUBSTANCES AND ARTICLES.

- a. Classification requests for Interim Hazard Classifications must be sent to the Office of Technical Services, NNSA Service Center, or designated Alternate Hazard Classifiers at the Pantex Site Office or the Livermore Site Office for approval.

- b. New explosive substances and articles made by the contractor under DOE direction or supervision must be tested and test results submitted to the Office of Technical Services, NNSA Service Center.
  - c. After review and classification by the NNSA Service Center Authorized Hazard Classifier, the package is forwarded to the DOT for registration. The contractor must provide a copy of the classification approval and supporting documentation to the field organization.
8. COMPLIANCE EVALUATIONS. The contractor must perform a self-assessment of transportation and packaging operations at least every 3 years to ensure compliance with applicable regulations, Orders, etc.